

Attorney Docket No.: 01CON263P-CIP  
Application Serial No.: 10/061,171

**List of Claims:**

**Claim 1 (Original):** A method of data communication over a time division multiplexed bus, including one or more digital signal lines, said method comprising:

- receiving an analog data signal over a telephone line from a first modem;
- utilizing a linear coding process to generate a plurality of digitized analog data signal samples from said analog data signal; and
- transmitting said plurality of digitized analog data signal samples via said one or more digital signal lines to a second modem.

**Claim 2 (Original):** The method of claim 1, wherein said linear coding process uses a sampling rate of about 16 kHz with an 8 bits/sample.

**Claim 3 (Original):** The method of claim 1, wherein said linear coding process uses a sampling rate of about 32 kHz with an 8 bits/sample.

**Claim 4 (Original):** The method of claim 1, wherein said second modem is a remote access server modem.

**Claim 5 (Original):** The method of claim 4, wherein said plurality of digitized analog data signal samples reach said remote access server modem over an IP link.

Attorney Docket No.: 01CON263P-CIP  
Application Serial No.: 10/061,171

**Claim 6 (Currently Amended):** The method of claim 1, wherein said one or more digital signal lines has two digital signal lines, and wherein said transmitting transmits said plurality of digitized analog data signal samples via said two of said one or more digital signal lines.

**Claim 7 (Original):** The method of claim 1, wherein prior to said receiving, said method further comprises determining said first modem to be capable of supporting a speed of 64kbps or more.

**Claim 8 (Original):** A method of data communication over a first time division multiplexed bus, including one or more digital signal lines, said method comprising:

- receiving an analog data signal over a telephone line from a first modem;
- utilizing a linear coding process to generate a plurality of digitized analog data signal samples from said analog data signal;
- transmitting said plurality of digitized analog data signal samples via said one or more digital signal lines of said first time division multiplexed bus to a second modem;
- demodulating said plurality of digitized analog data signal samples by said second modem to generate digital data;
- transmitting said digital data by said second modem over one or more digital signal lines of a second time division multiplexed bus.

**Claim 9 (Original):** The method of claim 8, wherein said linear coding process uses a sampling rate of about 16 kHz with an 8 bits/sample.

Attorney Docket No.: 01CON263P-CIP  
Application Serial No.: 10/061,171

**Claim 10 (Original):** The method of claim 8, wherein said second modem is a digital loop carrier modem.

**Claim 11 (Original):** The method of claim 8, wherein said digital data reach a remote access server over an IP link.

**Claim 12 (Currently Amended):** The method of claim 8, wherein said one or more digital signal lines has two digital signal lines, and wherein said transmitting said digital data transmits said digital data via said two ~~of said one or more~~ digital signal lines of said second time division multiplexed bus.

**Claim 13 (Original):** The method of claim 8, wherein prior to said receiving, said method further comprises determining said first modem to be capable of supporting a speed of 64kbps or more.

**Claim 14 (Original):** A data communication system for communication with a first modem over a telephone line, said communication system comprising:

a receiver capable of receiving an analog data signal over said telephone line from said first modem;

a processor capable of applying a linear coding process to said analog data signal to generate a plurality of digitized analog data signal samples; and

Attorney Docket No.: 01CON263P-CIP  
Application Serial No.: 10/061,171

a transmitter capable of transmitting said plurality of digitized analog data signal samples via one or more digital signal lines of a time division multiplexed bus to a second modem.

**Claim 15 (Original):** The communication system of claim 14, wherein said linear coding process uses a sampling rate of about 16 kHz with an 8 bits/sample.

**Claim 16 (Original):** The communication system of claim 14, wherein said second modem is a remote access server modem.

**Claim 17 (Original):** The communication system of claim 16, wherein said plurality of digitized analog data signal samples reach said remote access server modem over an IP link.

**Claim 18 (Currently Amended):** The communication system of claim 14, wherein said one or more digital signal lines has two digital signal lines, and wherein said transmitter transmits said plurality of digitized analog data signal samples via said two ~~of said one or more~~ digital signal lines.

**Claim 19 (Original):** The communication system of claim 14, wherein prior to said receiver receiving said analog data signal, said processor determines whether said first modem is capable of supporting a speed of 64kbps or more.

**Claim 20 (Original):** A data communication system for communication with a first

Attorney Docket No.: 01CON263P-CIP  
Application Serial No.: 10/061,171

modem over a telephone line, said communication system comprising:

a receiver capable of receiving an analog data signal over a telephone line from a first modem;

a processor capable of applying a linear coding process to said analog data signal to generate a plurality of digitized analog data signal samples;

a transmitter capable of transmitting said plurality of digitized analog data signal samples via one or more digital signal lines of a first time division multiplexed bus;

a second modem in communication with said first time division multiplexed bus;

wherein said second modem receives said plurality of digitized analog data signal samples via said one or more digital signal lines of said first time division multiplexed bus, demodulates said plurality of digitized analog data signal samples to generate digital data, and transmits said digital data over one or more digital signal lines of a second time division multiplexed bus.

**Claim 21 (Original):** The communication system of claim 20, wherein said linear coding process uses a sampling rate of about 16 kHz with an 8 bits/sample.

**Claim 22 (Original):** The communication system of claim 20, wherein said second modem is a digital loop carrier modem.

**Claim 23 (Original):** The communication system of claim 20, wherein said digital data reach a remote access server over an IP link.

Attorney Docket No.: 01CON263P-CIP  
Application Serial No.: 10/061,171

**Claim 24 (Currently Amended):** The communication system of claim 20, wherein said one or more digital signal lines has two digital signal lines, and wherein said second modem transmits said digital data via said two ~~of said one or more~~ digital signal lines of said second time division multiplexed bus.

**Claim 25 (Original):** The communication system of claim 20, wherein prior to said receiver receiving said analog data signal, said processor determines whether said first modem is capable of supporting a speed of 64kbps or more.